

ORAL ARGUMENT NOT YET SCHEDULED

No. 25-1005

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

CENTER FOR BIOLOGICAL DIVERSITY,

Petitioner,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,

LEE ZELDIN, Administrator,

Respondents.

*Petition for Review of Final Administrative Action of the
United States Environmental Protection Agency*

PETITIONER'S OPENING BRIEF

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**CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES
AND CORPORATE DISCLOSURE STATEMENT**

In accordance with Circuit Rules 27(a)(4) and 28(a)(1), Petitioner hereby certifies as follows:

A. Parties and Amici.

No parties have appeared before the district court because this case involves direct review of an order of an administrative agency.

The following parties appear before this Court in this direct appeal:

1. Petitioner Center for Biological Diversity;
2. Respondents U.S. Environmental Protection Agency and Lee Zeldin, Administrator (collectively “EPA”).

At the time of this filing, no intervenors or amici have appeared.

B. Rulings Under Review.

The following ruling is at issue:

Review of the Secondary National Ambient Air Quality Standards for Oxides of Nitrogen, Oxides of Sulfur, and Particulate Matter, 89 Fed. Reg. 105,692 (Dec. 27, 2024), EPA Docket Numbers EPA–HQ–OAR–2014–0128, EPA–HQ–ORD–2013–0620–0029.

C. Related Cases.

In *Center for Biological Diversity v. EPA, et al.*, Case No. 21-1054 (D.C. Cir.), the Center for Biological Diversity is similarly challenging EPA’s failure to engage in Section 7 consultation under the Endangered Species Act when making a determination on the National Ambient Air Quality Standards for Particulate

Matter related to secondary National Ambient Air Quality Standards (related to visibility, climate, and materials). *See* 85 Fed. Reg. 82,684 (Dec. 18, 2020). This case remains in abeyance pending the outcome of *Commonwealth of Kentucky v. EPA*, Case No. 24-1050 (D.C. Cir.), which otherwise is not related to this case. *See* Order, Case No. 21-1014, Doc. No. 2057116 (May 30, 2024).

D. Corporate Disclosure Statement.

Pursuant to Fed. R. App. P. 26.1 and Circuit Rule 26.1, Petitioner makes the following disclosures:

Center for Biological Diversity: the Center for Biological Diversity has no parent companies, and no publicly held company has a ten percent or greater ownership interest in the Center for Biological Diversity.

The Center for Biological Diversity, a corporation organized and existing under the laws of the State of California, is a national non-profit organization dedicated to the protection and enjoyment of the environment and our nation's endangered and threatened species and their habitats.

Respectfully submitted this 8th day of July, 2025

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GLOSSARY OF ACRONYMS AND ABBREVIATIONS

2012 Secondary Standards	EPA's previous final rule: Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur, 77 Fed. Reg. 20,218 (Apr. 3, 2012)
EPA	U.S. Environmental Protection Agency
Ecological NAAQS	EPA's final rule on appeal: Review of the Secondary National Ambient Air Quality Standards for Oxides of Nitrogen, Oxides of Sulfur, and Particulate Matter, 89 Fed. Reg. 105,692 (Dec. 27, 2024).
ESA	Endangered Species Act, 16 U.S.C. §§ 1531 <i>et seq.</i>
NAAQS	National Ambient Air Quality Standards
Nitrogen	Nitrogen Oxides
Particulates	Particulate Matter
PM _{2.5}	Particulate matter 2.5 micrometers or less
PM ₁₀	Particulate matter 10 micrometers or less
Scientific Advisory Committee	Clean Air Scientific Advisory Committee
Science Assessment	Integrated Science Assessment
Sulfur	Sulfur Oxides
Wildlife Agencies	National Marine Fisheries Service and U.S. Fish and Wildlife Service

INTRODUCTION

The harms of air pollution are many and varied. Living organisms are exposed to air pollution when they breathe it in, but airborne pollution can also settle and collect on land and in water, through processes called deposition and accumulation, and do harm through these other pathways.

Two categories of air pollutants known as nitrogen oxides (“Nitrogen”) and sulfur oxides (“Sulfur”) harm organisms when inhaled but also settle and collect in waters and soils. Through this deposition and accumulation, these pollutants can raise the acidity level of waters and soils, thereby harming organisms and their ecosystems, including endangered wildlife like the whooping crane and Shenandoah salamander. The threats of acidification of water and soils posed by the deposition and accumulation of Nitrogen and Sulfur have been understood for decades.

So have the threats posed by tiny particles known as particulate matter (“Particulates”). When inhaled, Particulates cause short-term and chronic harms, ranging from disease to death for a wide array of living organisms.

The Clean Air Act requires EPA to establish National Ambient Air Quality Standards (“NAAQS”) to protect public health and welfare from the diverse harms of air pollution. The NAAQS are limits on the maximum concentration of certain pollutants, including Nitrogen, Sulfur, and Particulates, allowed in the ambient air everywhere in the United States. Primary NAAQS must protect public health. Secondary NAAQS, like those at issue in this proceeding, must protect wildlife, vegetation, soils, waters, among other qualities of the environment and ecosystems.

In the administrative proceeding below, the United States Environmental Protection Agency and its Administrator (“EPA”) attempted to address the ecological effects of Nitrogen, Sulfur, and Particulates together, for the first time, instead of taking on the pollutants individually. Despite this singular focus on the ecological effects of Nitrogen, Sulfur, and Particulates in the proceeding to set the secondary NAAQS for these pollutants (“Ecological NAAQS”), EPA failed to account for the multiple lines of scientific evidence demonstrating that these pollutants have adverse effects on vegetation and wildlife protected under the Endangered Species Act (“ESA”).

Because of these adverse effects, Section 7 of the ESA required EPA to consult with the U.S. Fish and Wildlife Service and National Marine Fisheries Service (“Wildlife Agencies”) as part of the proceeding below, to enable EPA to understand how to minimize the harms to ESA-protected species. EPA, however, did not consult with the Wildlife Agencies, contrary to the requirements of the ESA. EPA thus failed to determine what is required of the Ecological NAAQS to sufficiently protect vegetation and wildlife under the Clean Air Act. EPA’s failure to account for these effects is arbitrary and capricious and should be rejected by the Court.

Throughout the decade-long development of the Ecological NAAQS, Petitioner Center for Biological Diversity (“Center”) repeatedly emphasized to EPA the importance and obligation of consulting with the Wildlife Agencies as part of EPA’s review, in order to fulfill EPA’s obligation to consult and to ensure

EPA accounted for the well-recognized adverse effects on ESA-protected species when setting the Ecological NAAQS.

Despite this, EPA failed to even attempt to address effects on ESA-protected species until the 11th hour, contrary to the ESA's requirement to consult at the "earliest possible time," to provide an "integral check" on agency actions to minimize the harms of agency action to imperiled wildlife. *Ctr for Biological Diversity v. EPA*, 861 F.3d 174, 178, 188 (D.C. Cir. 2017) ("*Cyantraniliprole I*") (citing 50 C.F.R. § 402.14(a)). EPA reached the cursory and arbitrary conclusion of convenience that it did not need to consult with the Wildlife Agency because its decision on the Ecological NAAQS would have "no effect" on endangered or threatened species.

EPA's attempts to evade the ESA's consultation requirements, and its late-stage "no effect" determination, run afoul of the ESA in several ways.

First, EPA attempts to dismiss its consultation obligations altogether by claiming that reauthorizing the existing NAAQS for Nitrogen and Particulates is not an "action" of the agency. EPA premises this claim on its decision to renew the existing NAAQS for these pollutants, rather than alter them. This characterization of the outcome of the Ecological NAAQS proceeding runs contrary to the language of the statute, regulations, caselaw, and the actual consequences of the secondary standards. EPA took action affecting species by reauthorizing Ecological NAAQS that do not protect them.

Second, in concluding that its action has "no effect" on endangered and threatened species, EPA disregards the wealth of scientific evidence, including

evidence put forward by EPA itself, regarding the ongoing and cumulative effects of air pollution on ESA-protected species. EPA’s decision runs afoul of the “low bar” triggering the ESA’s consultation requirements, because consultation is required for “actions that have any chance of affecting listed species or critical habitat — even if it is later determined that the actions are 'not likely' to do so.”

Growth Energy v. EPA, 5 F.4th 1, 30 (D.C. Cir. 2021).

EPA’s late-stage no effect determination also contravenes the consultation process, which Congress designed deliberately to require an analysis of the effects on species early enough to inform the outcome. EPA ignores several lines of the best available scientific data, contrary to the ESA.

The Court should remand the Ecological NAAQS and require EPA to engage in consultation with the Wildlife Agencies.

STATEMENT OF JURISDICTION

Pursuant to Section 307(b)(1) of the Clean Air Act, 42 U.S.C. § 7607(b)(1), this Court has jurisdiction to review the final EPA actions, taken at 89 Fed. Reg. 105,692 (Dec. 27, 2024) (JA___), challenged in this proceeding. The petition for review was timely filed on January 6, 2025, “within sixty days from the date notice of such promulgation, approval, or action appear[ed] in the Federal Register.” 42 U.S.C. § 7607(b)(1).

STATEMENT OF THE ISSUES

1. Whether EPA executed an “action” that may affect species under the Endangered Species Act when it reauthorized the existing National Ambient Air Quality Standards for Nitrogen and Particulates.
2. Whether EPA prepared a lawful “no effect” determination in accordance with the Endangered Species Act when EPA’s own best scientific and commercial data shows that air pollution may affect and harm ESA-protected species and their critical habitat.
3. Whether EPA violated its mandatory duty under the Endangered Species Act to consult with the Wildlife Agencies “at the earliest possible time,” and thereby insure against harming protected species and their critical habitat, when it established the Ecological NAAQS.

STATUTES AND REGULATIONS

The text of the relevant statutes and regulations is reproduced in the Addendum to this brief.

STATEMENT OF THE CASE

I. LEGAL BACKGROUND

A. The Clean Air Act

The Clean Air Act requires EPA to set National Ambient Air Quality Standards (“NAAQS”) for pollutants that “cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare,” and which are emitted “from numerous or diverse mobile or stationary sources.” 42 U.S.C. § 7408(a)(1)(A), (B). The Act requires two sets of NAAQS for each such pollutant: “primary” and “secondary” standards. The primary NAAQS must be set at a level “requisite to protect the public health.” 42 U.S.C. § 7409(b)(1).

The secondary NAAQS—the standards at issue here—“shall specify a level of air quality [that] ... is requisite to protect the public welfare from any known or anticipated adverse effects” of the pollutant. 42 U.S.C. § 7409(b)(2). EPA’s duty to determine this “requisite” level of protection is mandatory. *Am. Farm Bureau Fed’n v. EPA*, 559 F.3d 512, 530 (D.C. Cir. 2009).

Congress has defined the “welfare” that secondary NAAQS must protect very broadly. Welfare “includes, but is not limited to,” the “effects on soils, water, [] vegetation, [] animals, [and] wildlife...whether caused by transformation, conversion, or combination with other air pollutants.” 42 U.S.C. § 7602(h). The NAAQS must protect the ambient air itself, as well as guard against indirect effects, such as the consequences of deposition when air particles interact with land

and water. *See Ctr. for Biological Diversity v. EPA*, 749 F.3d 1079, 1081 (D.C. Cir. 2014).

In setting a NAAQS, EPA must take into account air quality “criteria” documents prepared by EPA staff, as well as the recommendations of the agency’s independent Clean Air Scientific Advisory Committee (“Scientific Advisory Committee”). *See Am. Farm Bureau Fed’n*, 559 F.3d at 516 (citing 42 U.S.C. § 7409(d)(2)).

EPA must review existing NAAQS using the same procedure at least once every five years and revise them “as may be appropriate.” *See* 42 U.S.C. § 7409(d)(1).

B. The Endangered Species Act

The Endangered Species Act is “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.” *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 180 (1978). In passing the ESA, Congress made a conscious choice to “give endangered species priority over the ‘primary missions’ of federal agencies.” *Id.* at 185.

Section 7(a)(2) of the ESA, 16 U.S.C. § 1536(a)(2), creates both substantive and procedural obligations that apply to every federal agency action. *See Nat’l Ass’n of Home Builders v. Defenders of Wildlife*, 551 U.S. 644, 666-67 (2007); *Defenders of Wildlife v. Jackson*, 791 F. Supp. 2d 96, 112–13 (D.D.C. 2011). Under Section 7(a)(2), every federal agency “shall... insure that any action authorized, funded, or carried out by such agency ... is not likely to jeopardize the

continued existence of any endangered species or threatened species or result in the destruction or adverse modification” of designated critical habitat, in consultation with the Wildlife Agencies. 16 U.S.C. § 1536(a)(2). A species is endangered if it “is in danger of extinction” and threatened if it is “likely to become an endangered species within the foreseeable future.” *Id.* § 1532(6), (20). Critical habitat are areas “essential for the conservation” of ESA-protected species. *Id.* § 1532(5).

The substantive duties of every agency are both to “insure” that their actions will not jeopardize the survival and recovery of any protected species but also to “minimize” take or harm to such species, and thus further their conservation and recovery. *Id.* § 1536(a)(2), 1536(b)(4)(C)(ii). To facilitate consultation’s role to effectuate both the ESA’s process requirements and substantive objectives, the ESA regulations require that a federal agency shall “review its actions at the earliest possible time to determine whether any action may affect listed species or critical habitat.” 50 C.F.R. § 402.14(a).

Agency “action” has an expansive regulatory definition under the ESA: “all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas.” 50 C.F.R. § 402.02. “Examples include, but are not limited to: [] the promulgation of regulations; [or] actions directly or indirectly causing modifications to the land, water, or air.” *Id.*

“Effects of the action” are also defined broadly in the Wildlife Agencies’ regulations implementing Section 7 of the ESA:

Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action but that are not part of the action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action.

50 C.F.R. § 402.02.

Federal actions that “may affect” a listed species or critical habitat may not proceed unless and until the action agency ensures, through completion of the consultation process, that the action is not likely to cause jeopardy or adverse modification of critical habitat. 16 U.S.C. § 1536(a); 50 C.F.R. §§ 402.14(a), 402.13. Thus, an agency must consult with the Wildlife Agencies when its action may affect endangered or threatened species, or their critical habitat. “‘May affect’ purposefully sets a low bar: ‘Any possible effect, whether beneficial, benign, adverse or of an undetermined character, triggers the formal consultation requirement.’” *Growth Energy*, 5 F.4th at 30 (citing 51 Fed. Reg. 19,926, 19,949 (June 3, 1986)). In carrying out the consultation process, agencies must use the “best scientific and commercial data available” to fulfill the requirements of the ESA. 16 U.S.C. § 1536(a)(2).

Only if the federal agency finds that its proposed action “will not affect any listed species or critical habitat in any way”—i.e., makes a “no effect” determination—can it skip the consultation process. *In re Ctr. for Biological Diversity & Ctr. for Food Safety*, 53 F.4th 665, 668 (D.C. Cir. 2022).

If the agency proceeds with consultation, the agency will obtain either a written concurrence letter from the Wildlife Agencies that the proposed action is “not likely to adversely affect” listed species or their habitat, 50 C.F.R. §§ 402.13, 402.14(b)(1), or a biological opinion evaluating the effects of the federal action on listed species and their critical habitat. 50 C.F.R. § 402.14(b)(2). These processes can include reasonable and prudent measures, or reasonable and prudent alternatives, to avoid jeopardizing or minimize take of ESA-protected species. 50 C.F.R. § 402.02.

II. FACTUAL BACKGROUND

A. Impacts of Criteria Pollutants on Ecosystems and Endangered Species

A multitude of pollution sources emit Nitrogen and Sulfur pollution, including motor vehicles that run on fossil fuels, power plants, and industrial facilities. 89 Fed. Reg. 105,692, 105,703 (Dec. 27, 2024). The harms from these pollutants are various, but, generally speaking, they first dirty the air and then settle, infiltrate, and collect in water and soils.

When airborne, Nitrogen, Sulfur, and Particulate pollution cause significant damage to wildlife and plants. EPA, Integrated Science Assessment for Oxides of Nitrogen, Oxides of Sulfur and Particulate Matter – Ecological Criteria (“Science Assessment”), JA____, 2013-0620-0029¹ at ES-13. However, a large portion of the

¹ References to the dockets in the administrative record (Doc. 2123756) omit preceding letters for brevity: specifically, EPA-HQ-ORD-2013-0620-0029

Sulfur and Nitrogen emitted by sources transforms into acidic compounds in the atmosphere. This acidic pollution is subsequently deposited on land via acid rain. 89 Fed. Reg. at 105,703. Alternatively, Nitrogen and Sulfur can transform into Particulates and continue to pollute the air in that form. JA____, 2014-0128-0046 at 1-9.

EPA has long known these pollutants cause broad harm when airborne and after deposition, finding in its previous review of the secondary NAAQS for Nitrogen and Sulfur that there are “expansive data to indicate that the levels of [Nitrogen and Sulfur] deposition under the current standards are not sufficient to prevent adverse effects in ecosystems.” 77 Fed. Reg. 20,218, 20,240 (Apr. 3, 2012) (“2012 Secondary Standards”). As EPA’s Science Assessment makes clear, new evidence since the 2012 Secondary Standards has only increased the weight of the evidence of ecological effects from Nitrogen and Sulfur deposition, with improved quantification of deposition-response relationships. JA____, 2013-0620-0029 at IS-21. EPA concluded, “[i]t is clear that the criteria pollutants [Nitrogen, Sulfur, and Particulates], in addition to the noncriteria pollutant NH₃, contribute to total [Nitrogen] and [Sulfur] deposition, which alters the biogeochemistry and the physiology of organisms, resulting in harmful declines in biodiversity.” *Id.*

The Science Assessment also recognizes that these adverse effects in ecosystems include direct and indirect harm to species protected under the Endangered Species Act. *E.g., Id.* at 13–18 (at least 78 listed or candidate species

becomes 2013-0620-0029, EPA-HQ-OAR-2014-0128-XXXX becomes 2014-0128-XXXX.

for threatened or endangered status have Nitrogen impacts identified as a primary threat).

1. Nitrogen Oxides

Nitrogen oxides have a number of harmful consequences for ecosystems in addition to acidification. When Nitrogen is absorbed into water, it becomes nitric acid that damages leaf cuticles and thus weakens plants against other stressors such as drought, pathogens, and other air pollutants. JA____, 2014-0128-0054 at 3-10.

Nitrogen deposition in freshwater also contributes to eutrophication—rapid algal growth that deprives the water of oxygen and suffocates fish and other aquatic life. 89 Fed. Reg. at 105,709. Even small amounts of Nitrogen deposition can shift nutrient rations and affect the biological productivity of lakes and streams. JA____, 2013-0620-0029 at ES-18. The ultimate result is decreased species diversity in aquatic ecosystems. *Id.*

For example, estuaries in New England with higher rates of Nitrogen deposition showed reduced levels of submerged aquatic vegetation, such as eelgrass. 89 Fed. Reg. at 105,716. Loss of native plants is a reduction in biodiversity in itself, but it has also been linked to declines in fish diversity as food sources are depleted. JA____, 2013-0620-0029 at 10-46.

The Science Assessment found that Nitrogen deposition has been identified as a threat to 12 terrestrial plant or animal species listed as, or candidates for, protection under the ESA. *Id.* at 6-98.

2. Sulfur Oxides

Airborne Sulfur causes foliar injury and decreased photosynthesis, growth, and yield in plants, in addition to causing death in lichens. JA____, 2014-0128-0054 at 3-10. Sulfur deposition can cause sulfide toxicity, reduced growth and productivity, and altered species physiology and diversity. JA____, 2013-0620-0029 at IS-93.

Sulfur enrichment of North American aquatic ecosystems from Sulfur pollution also stimulates mercury methylation, toxic to living organisms. *Id.* at IS-96. Unhealthy levels of mercury accumulation have been documented in fish, birds, bats, and aquatic environments, with negative impacts on species development, morphology, survival, and reproduction. *Id.* at IS-97.

3. Particulates

Particulates are inhalable and thus can lodge in the lungs and bloodstreams of humans and animals. *E.g.*, JA____, 2014-0128-0049 at ES-1, ES-8. EPA classifies particles with a diameter of 2.5 micrometers and smaller (“PM_{2.5}”) as fine inhalable particles, which pose the greatest health risk. *Id.* at ES-11. These health effects include diseases of the respiratory, cardiovascular and nervous systems, cancer, harm to reproductive and developmental systems, and death. *Id.* at ES-12 to ES-15, 9-2.

Numerous epidemiologic studies have consistently reported positive associations between short- and long-term Particulate exposure and health harms. *E.g.*, *Id.* at ES-22. The conclusion that a causal relationship exists between PM_{2.5}

exposure and adverse health effects is bolstered by the results of animal toxicological and controlled human exposures studies. *E.g., Id.* at 6-1. EPA's Integrated Science Assessment for Particulate Matter repeatedly cites to a peer-reviewed study on mice that showed chronic exposure to urban Particulates impairs lung growth and function. *Id.* at 9-37, 5-166, 5-159.

Aside from its direct health impacts to living organisms, Particulates also cause environmental damage. EPA has described how Particulates change the nutrient balances in coastal waters and large river basins, deplete soil nutrients, damage sensitive forests and farm crops, affect the diversity of ecosystems, and contribute to acid rain effects.²

4. Cumulative and Additive Impacts

Nitrogen, Sulfur, and Particulates are additive, meaning they interact with one another and with other pollutants in the environment, resulting in additional harms that can be greater than the sum of the parts. For example, Sulfur is generally more corrosive than Nitrogen, but mixtures of Sulfur, Nitrogen, and

² EPA, Health and Environmental Effects of Particulate Matter, <https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm>. Petitioner requests the court take judicial notice of documents from the federal government's websites as a "source[] whose accuracy cannot reasonably be questioned." Fed. R. Evid. 201(b)(2); *Sabra v. Pompeo*, 453 F. Supp. 3d 291, 302 (D.D.C. 2020) (taking notice of federal government's "official website"); *Hope v. Pelzer*, 536 U.S. 730, 737 n.7 (2002) (citing with approval judicial notice taken of report issued by Department of Justice).

other Particulate components can corrode certain metals at a faster rate than individual pollutants alone. 2014-0128-0046 at 5-12.

Crucially, harms from Nitrogen, Sulfur, and Particulates are also cumulative, meaning they add up in the environment over time through deposition, even if the concentration of the pollutants in the air decreases. Thus, reauthorizing the existing NAAQS for Nitrogen, as EPA did below, does not maintain a consistent, baseline level of these pollutants in ecosystems. Rather, because these pollutants accumulate in waters and soils as they are deposited over time, even maintaining the same level of pollution in the ambient air means the damage to soils and water gets worse and worse, thereby intensifying harm to species.

One study found that chronic low-level nitrogen addition rates into ecosystems reduced plant species numbers by 17 percent, indicating that ongoing deposition even at low levels has damaging consequences for plant diversity. JA____, 2014-0128-0112 at 712. Similarly, model projections of acid-sensitive watersheds suggest decreases in Sulfur deposition of over 50 percent are necessary for environmental recovery to begin, as only then will Sulfur inputs become low enough to counteract ongoing acidification and the diminished capacity of soil to absorb Sulfur. JA____, 2014-0128-0043 at 25.

EPA is aware of the cumulative harms from these pollutants. EPA's Scientific Advisory Committee stated that under the NAAQS "atmospheric deposition accounts for a significant fraction of 'new' [Nitrogen] loading^[3] to these

³ "Loading" refers to pollution entering a water body or ecosystem, typically from deposition.

systems, often ranging from 20 to over 40% of total external loading.” JA____, 2014-0128-0096 at 3 of 163. EPA’s own Scientific Advisory Committee emphasized that current Nitrogen secondary NAAQS should be lowered because of “widespread exceedances for growth and survival of many tree species” and the “need for additional decreases in atmospheric [Nitrogen] deposition.” *Id.* Scientific research indicates that sensitive aquatic systems, such as the Adirondack mountains, have ongoing adverse effects at current Nitrogen levels. JA____, 2014-0128-0302 at 1 (Sulfur is above threshold level in about 600 Adirondack lakes “in some cases by more than a factor of 2”).

EPA’s Scientific Advisory Committee recommended reducing the secondary NAAQS for Nitrogen, Sulfur, and Particulates because current standards were not adequately protective against deposition-related and episodic effects on ecosystems and wildlife. JA____, 2014-0128-0096 at 5-6 of 163. Similarly, EPA’s policy assessment on the Ecological NAAQS noted that, despite scientific uncertainty, revisions to the Ecological NAAQS may be appropriate because of ongoing adverse effects. JA____, 2014-0128-0057 at 7-72, 7-78.

5. Endangered Species and Vulnerable Ecosystems Effects

Not all ecosystems are equally affected by acid deposition. Examples of the most sensitive ecosystems with diminished acid neutralizing capacities include the southwestern Adirondacks, New England uplands, eastern portion of the upper Midwest, forested Mid-Atlantic highlands, and Mid-Atlantic coastal plains. JA____,

2014-0128-0057 at 4-9. Some waterbodies in the Adirondack mountains have acid neutralizing capacity levels near or below zero. *Id.*

Brown and brook trout and Atlantic salmon have experienced especially adverse effects from acidification and algal blooms, 89 Fed. Reg. at 105,707, in addition to threatened-status staghorn coral and elkhorn coral. JA____, 2013-0620-0029 at IS-85. As EPA's Science Assessment states, 50 aquatic invertebrate species (mollusks) and 14 fish species listed or that are candidates for protection under the ESA are adversely affected from Nitrogen impacts in particular. JA____, 2013-0620-0029 at 9-29.

At high elevations, it is acidic fog and clouds rather than acid rain that damages the environment. In the Blue Ridge Mountains, endangered plant species such as the Blue Ridge goldenrod and Heller's blazing star receive most of their moisture from mist and fog. At the high elevations where these species grow, air pollution is more concentrated, and wet acid deposition is consequently increased. JA____, 2014-0128-0473 at 20. Only a few populations of Heller's blazing star are currently known to exist, and acid precipitation is a "pervasive threat" to the species' survival. JA____, 2014-0128-0473 at iii, 7, 14.

Along with endangered plant species, there are several amphibian species already endangered that are further threatened by acid deposition. Salamanders such as the Shenandoah salamander and Cheat Mountain salamander are particularly vulnerable to acid deposition, because they forage during rainy or foggy weather. JA____, 2014-0128-0474 at 8 ("direct impacts to the salamanders associated with acid deposition and other sources of air pollution" further endanger

salamanders). Sulfur deposition also leads to direct and reproductive threats for the threatened Chiricahua leopard frog in the desert southwest. JA____, 2014-0128-0474 at 24, 44.

The International Recovery Plan for the whooping crane lists acid rain as a threat to the breeding ground of this animal. JA____, 2014-0128-0474 at C-1. An additional 14 endangered and eight threatened species, including the Cherokee darter, Alabama sturgeon, and Coosa moccasinshell mussel, are harmed by acidification in the Mobile River Basin aquatic ecosystem, which is home to 40 endemic fish species, 33 freshwater mussels, 110 aquatic snails, turtles, aquatic insects, and crustaceans. JA____, 2014-0128-0474 at v, 13; 2014-0128-0034 at 17 (Roanoke logperch).

Coastal sage scrub, one of the most threatened vegetation types in North America, is declining in California due to Nitrogen deposition altering soil composition. JA____, 2014-0128-0110 at 191. A large number of ESA-protected species, including the southwestern willow flycatcher, rely on the preservation of ecosystems under threat from Nitrogen deposition in southern California. JA____, 2013-0620-0029 at IS-54.

Harperella, an endangered perennial herb with only 13 populations remaining out of its original 24 across the country, is another plant species acutely susceptible to acidification and atmospheric pollution threats. JA____, 2014-0128-0473, Ex. 22 at 42. Lastly, lichens are particularly sensitive to air pollution and dry deposition. Rock gnome lichen, one of the two lichen species protected by the ESA, may not have a path to recovery without decreasing pollution levels and

acidification in the Southern Appalachian Mountains. JA____, 2014-0128-0006 at 9.

The San Joaquin Valley in central California, habitat to the endangered Fresno kangaroo rat, and the Los Angeles-South Coast Air Basin in Riverside County in southern California, habitat to the endangered Stephen's kangaroo rat, are areas with some of the highest PM_{2.5} concentrations in the country, leaving mammals (including humans) there exposed to the neurological, cardiovascular, and pulmonary harms from this pollution. JA____, 2014-0128-0049 at 2-45.

B. History of the Secondary NAAQS Nitrogen, Sulfur, and Particulates

In the proceeding below, EPA elected to reauthorize the preexisting NAAQS for Nitrogen and Particulates, rather than alter them. 89 Fed. Reg. at 105,692. EPA tightened the NAAQS for Sulfur, but asserts that this change to the standard will have no consequence for real-world emissions because it is only designed to pollution from getting worse, not to improve air quality. JA____, 2014-0128-530 at 4. These decisions were not informed by consultation with the Wildlife Agencies.

EPA first set secondary NAAQS for Nitrogen, Sulfur, and Particulates in 1971. 89 Fed. Reg. at 105,694. These standards were not directed toward depositional effects but rather protected against direct effects of gaseous Nitrogen and Sulfur. 77 Fed. Reg. at 20,239-40. The secondary standard for Nitrogen has never been lowered since, and the secondary standard for Sulfur had not been tightened until this Ecological NAAQS rule. *See* 89 Fed. Reg. at 105,694. Since

1971, the annual and 24-hour secondary standard for Particulates has been tightened, and EPA added categories of particles 10 micrometers or less (“PM₁₀”) and PM_{2.5} pollution. *Id.* at 105,696-98.

For decades, scientists and regulators have long established solid causal links between secondary NAAQS and the harm to sensitive ecosystems from acid deposition. *E.g., id.* at 105,694-95. During the review of the 2012 Secondary Standards for Nitrogen and Sulfur, EPA acknowledged that the NAAQS did not provide adequate protection against the adverse impacts of aquatic or terrestrial acid deposition on sensitive ecosystems. 77 Fed. Reg. at 20,240. Specifically, EPA concluded:

. . . the current standards do not provide adequate protection for ecosystems that are sensitive to aquatic acidification and that effects to these ecosystems are ongoing from ambient deposition of oxides of nitrogen and oxides of sulfur. The EPA also agrees that there is sufficient evidence to conclude that ambient deposition under the current secondary standards is causing or contributing to terrestrial acidification as well as nutrient enrichment in sensitive ecosystems.

77 Fed. Reg. at 20,240; *see also Ctr. for Biological Diversity*, 749 F.3d at 1087 (“all parties agree that the two secondary standards for [Nitrogen] and [Sulfur] are not adequate to protect against adverse effects on water bodies from acid rain”).

Yet, the 2012 Secondary Standards maintained the same secondary standards for Nitrogen and Sulfur that EPA characterized as inadequate. 77 Fed. Reg. at 20,256. EPA cited “remaining scientific uncertainties” regarding what level

of protection would be necessary to protect public welfare, despite certainty that the existing level was inadequate. *Id.* EPA did not engage in the ESA consultation process to gather information to address uncertainties about ESA-protected species, and EPA has never engaged in consultation under the ESA on the Clean Air Act's secondary standards.

Considering the current state of scientific knowledge regarding the effects of Nitrogen and Sulfur, EPA's Scientific Advisory Committee recommended reducing the annual secondary Nitrogen NAAQS from 53 parts per billion to between 10 and 20 parts per billion, or lower, to adequately protect against deposition-related welfare effects of Nitrogen. JA____, 2014-0128-0096 at 5-6 of 163. The Scientific Advisory Committee further recommended reducing the secondary 24-hour average NAAQS for PM_{2.5} to from 35 micrograms per cubic meter to 25 micrograms per cubic meter. *Id.* at 6 of 163. The National Park Service recommended setting an annual secondary Sulfur NAAQS at 5 parts per billion to prevent continued harmful effects of Sulfur deposition. JA____, 2014-0128-0447 at 1.

Finally, EPA has bifurcated its review of the secondary standards for Particulates. In the Ecological NAAQS at issue EPA "evaluated the currently available scientific literature on the ecological effects of [Sulfur, Nitrogen, and Particulates]," including an analysis of both air quality and deposition. 89 Fed. Reg. 105,692-93. In completing the separate welfare analysis of Particulates—focusing on visibility, climate and materials—EPA emphasized that "public welfare protection provided by the secondary Particulates standards against

ecological effects” would be conducted during the review of the Ecological NAAQS at issue. *Id.* at 16,205. 89 Fed. Reg. 16,202, 16,205 (Mar. 6, 2024).

STANDARD OF REVIEW

Whether EPA’s “no effect” determination under the ESA is contrary to the record evidence, and thus is arbitrary and capricious, and whether EPA violated the ESA by failing to consult with the Wildlife Agencies before promulgating the NAAQS is governed by the standards set forth in the Administrative Procedures Act. *Growth Energy*, 5 F.4th at 32 (citing 5 U.S.C. § 706(2)(A)); *see also Ctr. for Biological Diversity*, 749 F.3d at 1087.⁴ Thus, the Court must set aside EPA’s action if the action is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2)(A).

Under this standard:

An agency decision is not arbitrary and capricious where it is reasonable and reasonably explained. But an agency acts arbitrarily or capriciously if it has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.

⁴ *Ctr. for Biological Diversity*, 749 F.3d at 1087 n.15 (2014) (finding the two judicial review standards under Clean Air Act and Administrative Procedure Act “equivalent”).

Growth Energy, 5 F.4th at 31 (cleaned up); *see also Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

SUMMARY OF ARGUMENT

EPA acted arbitrarily and contrary to law by failing to consult under Section 7 of the ESA when setting the Ecological NAAQS. EPA’s argument that it did not execute an “action” requiring consultation by reauthorizing the existing NAAQS for Nitrogen and Particulates is premised on an incorrect interpretation of what constitutes agency action. EPA’s argument that it does not need to consult because its action will have “no effect” on EPA-protected species and habitats is arbitrary, in that it is clearly refuted by the record and not premised on the best available science.

I. EPA’s decision to authorize and carry out the Clean Air Act’s secondary NAAQS for Nitrogen, Sulfur, and Particulates is an action under the ESA triggering EPA’s consultation obligations. EPA does not dispute that revising the secondary standard for Sulfur is an ESA action. However, EPA alleges that it has not acted by reauthorizing the existing standards for Nitrogen and Particulates as a result of its review. To circumvent its ESA consultation obligations, EPA narrowly construes the broad statutory and regulatory definition of action under the ESA.

EPA's decision constitutes an ESA action because EPA affirmatively authorizes and carries out the secondary NAAQS, and EPA has the discretion to consider and revise the NAAQS to reduce harm to ESA-protected species.

II. EPA disregards numerous lines of evidence, including evidence EPA itself produced, to claim that reauthorizing the standards for Nitrogen and Particulates, and revising the standard for Sulfur, has “no effect” on ESA-protected species. As this Court has recognized, the ESA's “[m]ay affect” standard “purposefully sets a low bar.” *Growth Energy*, 5 F.4th at 30. EPA disregards this standard, the findings of its own Science Assessments, and the conclusions of its own Scientific Advisory Committee and the National Park Service, to make this arbitrary determination.

EPA, first, ignores the harms ongoing and cumulative deposition of Nitrogen, Sulfur, and Particulates and the net increase in harm resulting from their accumulation under the Ecological NAAQS. EPA, second, disregards the direct impacts of the inhalation and exposure of Particulates on ESA-protected species.

III. Finally, over the decade that EPA spent researching and developing the rule here, promulgating the Ecological NAAQS, the record shows no consultation or communication with Wildlife Agencies regarding the harm to ESA-protected species. The ESA requires federal agencies to “review [] actions at the earliest possible time to determine whether any action may affect listed species or critical habitat.” 50 C.F.R. § 402.14(a). Despite the wealth of evidence regarding the harms from Nitrogen, Sulfur, and Particulates, EPA waited until the 11th hour

to prepare a “no effect” determination that arbitrarily employs a higher “may affect” standard than the ESA allows and disregards a wealth of scientific data.

STANDING

The Center has associational standing to bring this claim because protection of the environment is germane to its interests, its members’ interests in listed species are harmed by EPA’s failure to consult on the Ecological NAAQS, and this case does not require the participation of individual members. *See Am. Trucking Ass’n v. Fed. Motor Carrier Safety Admin.*, 724 F.3d 243, 247 (D.C. Cir. 2013). The Center provides nine declarations from members with strong personal and professional interests in dozens of species across the country. *See* Addendum of Standing Declarations in Support of Petitioner’s Opening Brief at DEC001-077.

The Center’s mission to support the protection and enjoyment of the environment and the nation’s endangered and threatened species and their habitats is important to those members and relevant to this case. As this Court has recognized, EPA’s failure to engage in consultation creates risks that “manifest as actual or imminent harm” to Center members, such as Ileene Anderson and James D. Williams, who have “concrete interests” in species in areas affected by adverse air pollution; those interest are “germane” to the Center’s purpose; and neither the claims nor relief require participation by those individual members. *Ctr. for Biological Diversity v. EPA*, 56 F.4th 55, 67 (D.C. Cir. 2022); Addendum of Standing at DEC001-015; and at DEC070-077.

The Center's members observe and enjoy ESA-protected species in areas where the NAAQS authorize air pollution that acidifies the aquatic and terrestrial habitat, changes the soil nutrient composition, and directly harms the species. *E.g.*, Addendum of Standing; *infra* at § II. Accordingly, EPA's authorization of NAAQS without first consulting with the Wildlife Agencies is likely to injure the interests in ESA-protected species of the Center's members. *See generally* Addendum of Standing (detailing interests in species).

Further, when procedural omissions, such as violations of the ESA's consultation requirements, occur, the court will “relax — while not wholly eliminating — the issues of imminence and redressability.” *Growth Energy*, 5 F.4th at 27. Injuries to the Center's members are caused by EPA's failure to consult with the Wildlife Agencies, which would have avoided jeopardy to species and adverse modification of critical habitat, and minimized take. 42 U.S.C. § 7409. Likewise, the Center's members' injuries would be redressed by an order from this Court requiring EPA to complete consultation. If consultation shows the Ecological NAAQS would jeopardize listed species, EPA would ultimately be required to impose limits to prevent jeopardy. 16 U.S.C. § 1536(a)(2); *see also Bennett v. Spear*, 520 U.S. 154, 170 (1997).

ARGUMENT

The Clean Air Act's secondary NAAQS must be set at a level “requisite to protect” “animals,” “wildlife,” and “vegetation” “from any known or anticipated adverse effects” of the air pollutants Nitrogen, Sulfur, and Particulates. 42 U.S.C. §§ 7409(b)(2), 7602(h). Yet, despite the admitted effects on the environment, and ESA-protected species, EPA avoided consulting with the expert Wildlife Agencies during a years-long rulemaking process focused specifically on addressing the ecological harms of Nitrogen, Sulfur, and Particulates.

EPA puts forward two main arguments to subvert compliance with the ESA.

First, with respect to only Nitrogen and Particulates, EPA states that it “does not agree that leaving the secondary NAAQS for Particulates and Nitrogen unaltered triggers the requirement to consult under the ESA,” claiming this is not an “action” under the statutory terms of the ESA. JA____, 2014-0128-0529 at 10; JA____, 2014-0128-0530 at 4, n.7.

Second, EPA claims that the reauthorization of the secondary NAAQS for Nitrogen and Particulates, and revising the NAAQS for Sulfur, have “no effect” on ESA protected species, such that consultation is not required. JA____, 2014-0128-0530 at 1, 4. These arguments must fail.

Importantly, the record also demonstrates that EPA's 11th hour “no effect” determination turns the consultation process on its head and contravenes the ESA's requirements that an agency “shall review its actions at the earliest possible time” to determine effects on ESA-listed species. *Cyantraniliprole I*, 861 F.3d at 188

(citing 50 C.F.R. § 402.14(a)). EPA’s Science Assessment contained numerous references to the harms posed to ESA-protected species and their habitat, yet EPA failed to consult with the Wildlife Agencies on those recognized harms. EPA’s approach undermines the ESA’s requirements that consultation provide “a roadmap forward that balances accommodating agency priorities with maintaining ESA compliance” through “inter-agency consideration of what plausible mitigation measures could be implemented.” *In re Ctr. for Biological Diversity*, 53 F.4th at 668 (emphasis added).

I. Setting the secondary NAAQS is an “action” under the ESA and its regulations.

EPA’s decision on the Ecological NAAQS in the proceeding below authorized, funded, and carried out the Clean Air Act’s requirements for secondary NAAQS for Nitrogen, Sulfur, and Particulates, with direct implications for the amount of this pollution that enters the environment, and its consequences for species. Thus, EPA’s determination is an “action” under the ESA that triggered EPA’s consultation obligations.

Section 7 of the ESA defines agency action broadly as “any action authorized, funded, or carried out by [a federal] agency.” 16 U.S.C. § 1536(a)(2) (emphasis added). As an initial matter, “the Court must give effect to, not nullify, Congress’ choice” to avoid limiting language when it required consultation that should apply to any action authorized, funded, or carried out by a federal agency.

Gallardo v. Marsteller, 596 U.S. 420, 422 (2022).⁵ In addition, the question of whether an agency's course of conduct constitutes an “agency action” under the ESA is a legal question, not a factual one. *Nat'l Wildlife Fed'n v. Brownlee*, 402 F.Supp.2d 1, 11 (D.D.C. 2005). EPA’s interpretation here undermining the ESA is “not entitled to deference.” *Loper Bright Enters. v. Raimondo*, 603 U.S. 369, 392 (2024).

The regulations promulgated by the Wildlife Agencies charged with implementing the ESA affirm the broad definition of action. Action is defined as “all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States . . .” including “promulgation of regulations” and “actions directly or indirectly causing modifications to the land, water, or air.” 50 C.F.R. § 402.02 (emphasis added).

Attempting to circumvent the ESA’s consultation requirements, EPA incorrectly argues that “leaving the NAAQS [for Nitrogen and Particulates] unchanged does not authorize or carry out any ‘action’” under the ESA. JA____, 2014-0128-529 at 10. While EPA claims that changing the secondary NAAQS for Sulfur has “no effect” on the environment, the agency has not disputed that revising the secondary NAAQS for Sulfur is an agency action. JA____, 2014-0128-0529 at 10-12; JA____, 2014-0128-0530. EPA’s interpretation of “action”

⁵ Other circuits have recognized that agency actions are to be “construed broadly.” *Karuk Tribe of Cal. v. U.S. Forest Serv.*, 681 F.3d 1006, 1021 (9th Cir. 2012) (*en banc*) (citing *Tenn. Valley Auth. v. Hill*, 437 U.S. 153); *see also Nat. Res. Def. Council v. Houston*, 146 F.3d 1118, 1125 (9th Cir. 1998) (“The term ‘agency action’ has been defined broadly”).

contravenes the purpose and language of the Clean Air Act and the ESA, the ESA's implementing regulations, and the caselaw.

EPA's reauthorization of the Ecological NAAQS below qualifies as an agency action pursuant to the plain language of the ESA and its implementing regulations.

It also qualifies as such under relevant case law. The Ninth Circuit has analyzed whether a given activity is an "action" under the ESA in two steps. First, the Court determines "whether the agency affirmatively authorized, funded, or carried out the underlying activity." *See Karuk Tribe of Cal. V. U.S. Forest Serv.*, 681 F.3d 1006, 1021 (9th Cir. 2012). Second, the Court determines "whether the agency had discretion to influence or change the [underlying] activity for the benefit of a protected species." *Id.* EPA's reauthorization of the secondary NAAQS for Nitrogen and Particulates is an action under the ESA under this two-part framework.

A. EPA affirmatively authorized and carried out federal, state, and private activity that may affect listed species and critical habitats.

By reauthorizing the secondary NAAQS for Nitrogen and Particulate pollution, EPA "authorized" and "carried out" an action that may affect ESA-protected species or habitat. 16 U.S.C. § 1536(a)(2). This is true even where EPA elected not to alter the preexisting NAAQS for Nitrogen and Particulate pollution when reauthorizing these NAAQS. The level at which the NAAQS are set has nationwide consequences for the amount of pollution released by a host of sources across the country, and for federal and state activity to address that pollution.

1. The NAAQS authorize pollution that may affect ESA-protected species and habitats.

NAAQS are a cornerstone of the Clean Air Act. They serve as the foundation for a multitude of mandatory and ongoing duties for both EPA and the states, so that states can maintain or come into compliance with the NAAQS through State Implementation Plans, permitting of pollution sources, and other mechanisms. *Train v. Natural Resources Defense Council*, 421 U.S. 60, 66 (1975).

Under the Clean Air Act, states initially formulate pollution control strategies in State Implementation Plans to ensure that their ambient air meets the NAAQS for each pollutant. 42 U.S.C. § 7407(a). Every state plan must be submitted to EPA for approval. 42 U.S.C. § 7410(a)(1), (a)(2). The Act prohibits the EPA from approving any revision to a state plan if the revision will interfere with attainment or maintenance of any NAAQS. 42 U.S.C. § 7410(l).

Among other requirements, states must have a permitting program in their state plan that controls and authorizes the construction and operation of sources of air pollution to prevent violations of the NAAQS. 42 U.S.C. § 7410(a)(2)(C); *New York v. EPA*, 413 F.3d 3, 10, 11–13 (D.C. Cir. 2005). States cannot issue permits for new or expanded sources of pollution that could cause a violation of the NAAQS, must analyze the pollution from those sources to avoid violations, and must limit pollution through permit conditions when the potential for a NAAQS violation is present. *See id.*; 42 U.S.C. §§ 7475(a)(3), 7502(c)(4), 7503(a)–(c); *see also* 40 C.F.R. § 51.160(a)–(b).

Thus, the level of the NAAQS controls and limits the amount of air pollution that states⁶ can allow pollution sources to release, on an ongoing basis. If the level of the NAAQS is higher, more pollution is allowed from private, state, and federal sources. If the level of the NAAQS is lower, less pollution is allowed. *See Karuk Tribe*, 681 F.3d at 1011 (“there is ‘agency action’ whenever an agency makes an affirmative, discretionary decision about whether, or under what conditions, to allow private activity to proceed.”). EPA’s decision here requires itself and states to protect the Ecological NAAQS in present and future permitting proceedings.

EPA’s reauthorization of the secondary NAAQS for Nitrogen and Particulate pollution thereby qualifies as an action because the agency is “authoriz[ing] . . . the underlying activity” that may affect ESA-protected species. *Karuk Tribe*, 681 F.3d at 1021. The “underlying activity” in question is the emission of Nitrogen, Sulfur, and Particulate pollution.⁷ By reauthorizing the secondary NAAQS for Nitrogen and Particulates, EPA authorizes pollution in

⁶ EPA takes on permitting roles where a state fails to do so, on tribal lands, and in United States territories. *See* 42 U.S.C. § 7410(c)(1), (o). Thus, reauthorization of a NAAQS directly affects federal activity as well.

⁷ The level of the NAAQS is of fundamental consequence for other ongoing activities of state, federal, and private entities that affect the amount of pollution in the environment. Permitting is only one example. *See, e.g., Miss. Comm’n on Envtl. Quality v. EPA*, 790 F.3d 138, 154–55 (D.C. Cir. 2015) (citing 40 C.F.R. Pt. 58) (discussing the requirement for states to establish and maintain an air monitoring network and to annually certify data showing whether they are meeting the NAAQS); *Coalition for Responsible Regulation v. EPA*, 684 F.3d 102, 104 (D.C. Cir. 2012) (citing 42 U.S.C. § 7473(b)) (discussing EPA’s obligation to create “increments” that limit Nitrogen and Particulate pollution to prevent areas with good air quality from backsliding).

amounts that do not violate the NAAQS—emissions which affect ESA-protected species and habitats.

2. EPA affirmatively reauthorized the Nitrogen and Particulate NAAQS.

EPA argues that it did not execute an action under the ESA because it left the NAAQS for nitrogen and particulates “unchanged.” 2014-0128-529 at 10. EPA did decide against altering the preexisting NAAQS for Nitrogen and Particulates in the proceeding below. However, EPA’s decision is an affirmative reauthorization, or renewal, of these existing NAAQS, rather than a passive non-action of no consequence for endangered and threatened species.

While EPA has discretion in setting the NAAQS, EPA’s duty to conduct a “thorough review” of the NAAQS at “five-year intervals” is a mandatory requirement of the Clean Air Act. 42 U.S.C. § 7409(d)(1). EPA “shall” conduct this review and “make such revisions in such . . . standards and promulgate such new standards as may be appropriate” to protect public health and welfare. *Id.* Because EPA must reevaluate existing NAAQS every five years, the Clean Air Act requires EPA to affirmatively reauthorize and renew existing NAAQS, or else revise them. EPA can also revoke NAAQS that are no longer necessary to protect health and welfare. *E.g., South Coast Air Quality Mgmt. Dist. v. EPA*, 472 F.3d 882 (D.C. Cir. 2006). When it comes to a NAAQS, EPA cannot set it and forget it.

Accordingly, EPA’s decision in the rulemaking here is analogous to the renewal of a time-limited permit or permitting program that allows a polluting

activity, in the form of Nitrogen and Particulate emissions, that affects ESA-protected species and habitats. As the Ninth Circuit has recognized pursuant to the broad definition of ESA action, “[e]xamples of agency actions triggering Section 7 consultation include the renewal of existing water contracts . . . and the ongoing construction and operation of a federal dam.” *Karuk Tribe*, 681 F.3d at 1021 (citing *Natural Res. Def. Council v. Houston*, 146 F.3d 1118, 1125 (9th Cir. 1998); *Tenn. Valley Auth.*, 437 U.S. at 185).

In *NRDC v. Houston*, a federal agency’s renewal of preexisting water contracts qualified as an action under the ESA, requiring consultation. 146 F.3d 1118 at 1125. The reauthorization of grazing permits, *Ctr. for Biological Diversity v. Branton*, 126 F. Supp. 3d 1090 (D. Ariz. 2015), and wildlife management programs also qualify as an “agency action” for purposes of the ESA. *WildEarth Guardians v. Bucknall*, 756 F. Supp. 3d 1017 (D. Mont. 2024).

In *California Sportfishing Protection Alliance v. FERC*, the Ninth Circuit concluded that FERC had not executed an agency action, and thus did not need to consult, but only because the license term had not yet expired and FERC had not yet made an affirmative decision about its renewal. 472 F.3d 593, 595 (9th Cir. 2006). Crucially, at the time of the Court’s decision, FERC had already initiated consultation under the ESA with respect to the upcoming renewal of the license for the dam. *Id.* at 596. The secondary NAAQS for Nitrogen and Particulates, affirmatively authorize and carry out ongoing actions by the states and federal agencies, like the reauthorization of existing water contracts, dam operations, grazing permits, wildlife management programs, constituting an agency action.

Ultimately, when the five-year review is due, EPA must evaluate the present state of science and policy and determine whether preexisting NAAQS are still sufficient to meet the requirements of the Clean Air Act. EPA's decision to reauthorize existing NAAQS is based on "current policy considerations and existing scientific knowledge," rather than the prior considerations that resulted in the establishment of a NAAQS originally.⁸ *Murray Energy Corp. v. EPA*, 936 F.3d 597, 609 (D.C. Cir. 2019). EPA's prior decision on a NAAQS does not protect its present-day decision to reauthorize a NAAQS. Even the decision to leave the NAAQS the same newly authorizes the pollution that will result, for the next five years.

This is especially true where leaving the NAAQS unchanged also authorizes federal, state, and private activity that changes the status quo by allowing for ongoing and mounting cumulative harms that may affect listed species and critical habitats, as detailed *infra* at § II. By reauthorizing the secondary NAAQS, the EPA argues it will not need to make new air quality designations, and states and tribes will not need to undertake new planning or control efforts. JA____, 2014-0128-0529 at 10. EPA argues that, accordingly, retaining secondary NAAQS does not authorize any action because the EPA has left the status quo unchanged. *Id.* EPA's focus on the legalistic and administrative results of its action is misplaced and

⁸ This is consistent with the elaborate, multi-year process EPA undertakes to review NAAQS, which involves multiple rounds of scientific and policy consideration. *See API v. EPA*, 684 F.3d 1342, 1345–47 (D.C. Cir. 2012). Each review stands alone, and results in a standalone decision on whether to leave a NAAQS in place for the next five years.

overlooks the real-world impacts of continued deposition on the environment. *Cal. ex rel. Lockyer v. USDA*, 575 F.3d 999, 1014 (9th Cir. 2009) (focusing on “planning measures” misses the mark regarding harm in ESA context, as it disregards effects on “complex ecosystems”).

There is not a consistent baseline level of harm EPA is maintaining by reauthorizing the existing NAAQS. Rather, reauthorizing the secondary NAAQS for Nitrogen and Particulates affirmatively increases the cumulative and additive pollution burden on ESA-protected species through net increases in deposition that cumulatively results in worsening harms.

3. Reauthorization of the NAAQS is a programmatic action requiring consultation.

EPA cannot argue that it did not act because reauthorizing existing NAAQS is a step removed from the permitting actions that limit pollution to prevent NAAQS violations. Consultation is required for bigger-picture “programmatic” agency actions with consequences for future actions that affect species more directly.

The reauthorization of the NAAQS affects ESA-protected species and habitats through its consequences for State and Federal Implementation Plans, permitting of new and expanding sources, and several other Clean Air Act mechanisms. This qualifies it as a programmatic action triggering consultation because it binds or directs subsequent action through these plans, permits, and other mechanisms. *See* 50 C.F.R. § 402.02 (defining programmatic consultation as

a “consultation addressing an agency’s multiple actions on a program, region, or other basis” pertinent to “programmatic actions such as . . . [a] proposed program, plan, policy, or regulation providing a framework for future proposed actions.”); *see, e.g., Florida Key Deer v. Paulison*, 522 F.3d 1133, 1139-40 (11th Cir. 2008).

In *Florida Key Deer*, for example, the Federal Emergency Management Agency (“FEMA”) created eligibility criteria for flood insurance under the Flood Control Act to encourage states to adopt adequate measures to improve “long-range land-management.” (quoting 42 U.S.C. § 4102(c)). Because FEMA took discretionary action that influenced future state action, the 11th Circuit held that FEMA took a programmatic action that required compliance with the ESA. *Id.* at 1143; *see also Environmental Defense Center v. Bureau of Ocean Energy Management*, 36 F.4th 850, 884–85 (9th Cir. 2022), *cert denied*, 143 S. Ct. 2582 (2023).

Reauthorizing and carrying out the secondary NAAQS binds subsequent state and federal action because Implementation Plans and ongoing permitting actions must keep pollution levels below the secondary NAAQS.

B. When reviewing NAAQS, the EPA has discretion to influence or change federal, state, and private activity for the benefit of protected species.

Section 7 and its requirements “apply to all actions in which there is discretionary Federal involvement or control.” 50 C.F.R. § 402.03; *see also Nat’l Ass’n of Home Builders*, 551 U.S. at 665. An agency has discretion over an action when it has the ability “to consider the protection of threatened or endangered

species as an end in itself.” *Nat’l Ass’n of Home Builders*, 551 U.S. at 671. Any level of discretion, even when an agency is performing a statutorily mandated action, satisfies the discretion requirement and mandates consultation under the ESA. *See Growth Energy*, 544 U.S. at 29-30. EPA did not dispute that it has the discretion to consider ESA-protected species in setting the secondary NAAQS. JA____, 2014-0128-529 at 10-12; JA____, 2014-0128-530.

There is a “general principle that the Clean Air Act gives EPA substantial discretion in setting the NAAQS.” *Natl. Ass’n of Mfrs. v. EPA*, 750 F.3d 921, 922 (D.C. Cir. 2014). EPA must set the secondary standard at a level of air quality that, “in the judgment of the Administrator,” “is requisite to protect the public welfare.” 42 U.S.C. § 7409(b)(2). Congress defined welfare very broadly to include, *inter alia*, “effects on soils, water, [] vegetation, [] animals, [and] wildlife.” 42 U.S.C. § 7602(h). This clearly includes listed species under the ESA. 50 C.F.R. § 402.02 (defining listed species as “any species of fish, wildlife, or plant ... determined to be endangered or threatened”).

The statutory qualification that “the judgment of the administrator” controls the determination of what is required of the secondary NAAQS shows that EPA has discretion when setting secondary NAAQS. 42 U.S.C. § 7409(b)(2). And although “requisite to protect” means that the secondary NAAQS may not be higher or lower than necessary, *Ctr. for Biological Diversity*, 749 F.3d at 1087, the Administrator has the discretion to determine what NAAQS are necessary to safeguard ESA-protected vegetation, wildlife, and habitat.

II. EPA disregards evidence of harm to ESA-protected species to reach an Arbitrary and Capricious “No effect” determination.

EPA’s last-minute “no effect” determination to avoid consultation with the Wildlife Agencies on the Ecological NAAQS violates the ESA. EPA disregards longstanding evidence of harm, which EPA itself has recognized, regarding the ongoing and cumulative ecological effects from the deposition from Nitrogen and Sulfur air pollution, as well as the direct effects of Particulate pollution on animals. EPA does so to improperly avoid a “may affect” finding that would trigger consultation with the Wildlife Agencies. These are not speculative effects, as demonstrated, *inter alia*, by the Wildlife Agencies in the recovery plans for the endangered whooping crane, Shenandoah salamander, or threatened Chiricahua leopard frog that point to acidification from Nitrogen and Sulfur deposition as a threat pushing the species towards extinction.

Agencies taking action can only avoid consultation with the Wildlife Agencies when the action will have no effect on ESA-protected species and habitat. *In re Ctr. for Biological Diversity*, 53 F.4th at 668. The ESA requires formal consultation when a Federal agency determines that its action may affect a listed species or critical habitat. 50 C.F.R. § 402.14(a). “‘May affect’ purposefully sets a low bar: ‘Any possible effect, whether beneficial, benign, adverse or of an undetermined character, triggers the formal consultation requirement.’” *Growth Energy*, 5 F.4th at 30 (citing 51 Fed. Reg. at 19,949). “Thus, actions that have any chance of affecting listed species or critical habitat — even if it is later determined

that the actions are 'not likely' to do so — require at least some consultation under the ESA.” *Id.* (citing *Karuk Tribe*, 681 F.3d at 1027).

“In carrying out the consultation process, the agencies must use the ‘best scientific and commercial data available’” to inform this may affect determination. *El Puente v. U.S. Army Corps of Eng’rs*, 100 F.4th 236, 254 (D.C. Cir. 2024) (citing 16 U.S.C. § 1536(a)(2)). EPA’s attempts to disregard the best available scientific and commercial data available, degraded baseline conditions, and the low bar for a may affect determination is arbitrary and capricious.

A. EPA disregards evidence of the cumulative and ongoing deposition of Nitrogen, Sulfur, and Particulates on ESA-listed species.

EPA disregards multiple lines of scientific evidence showing the harm to ESA-protected species, and, in doing so, contravenes the purposely low threshold triggering a “[m]ay effect” determination under the ESA. *Growth Energy*, 5 F.4th at 30. EPA itself has long recognized that the secondary standards for Nitrogen and Sulfur are not adequately protective of the environment, but disregards past acknowledgements and current science to reach a “no effect” finding when, at the very least, the action may affect species.

EPA acknowledged that the 2012 Secondary Standards did not provide adequate protection against the adverse impacts of deposition on aquatic or terrestrial acidification on sensitive ecosystems. 77 Fed. Reg. at 20,240; *see also Ctr. for Biological Diversity*, 749 F.3d at 1087 (“all parties agree that the two

secondary standards for NO₂ and SO₂ are not adequate to protect against adverse effects on water bodies from acid rain”); 89 Fed. Reg. 105,696, 105,701-02.

In the Ecological NAAQS here, EPA similarly decided that “the existing secondary [Sulfur] standard does not provide the requisite protection from known or anticipated adverse effects on the public welfare related to atmospheric deposition of [Sulfur] compounds associated with Sulfur in ambient air.” 89 Fed. Reg. at 105,753; JA____, 2014-0128-530 at 2.

EPA’s own scientific analysis emphasized the ongoing harm based on the existing NAAQS. EPA’s Scientific Advisory Committee recommended reducing the secondary standards for Nitrogen, Sulfur, and Particulates because current standards were not adequately protective against deposition-related and episodic effects on ecosystems and wildlife. JA____, 2014-0128-0096 at 5-6 of 163.

Similarly, the National Park Service recommended setting an annual secondary SO₂ standard at 5 ppb to prevent continued harmful effects of Sulfur deposition. JA____, 2014-0128-0447 at 1.

EPA’s Science Assessment for Sulfur, Nitrogen, and Particulates provides a wealth of scientific evidence of ongoing adverse effects on the environment and species and details the causal relationships leading to harm. JA____, 2013-0620-0029 at ES-8 to ES-12. As part of this comprehensive literature review, the Ecological NAAQS Science Assessment repeatedly details the adverse effects of Sulfur, Nitrogen, and Particulates on ESA-protected species. *E.g.* JA____, 2013-0620-0029 at 13-18 (“Presently, there are at least 78 listed or candidate species for threatened or endangered status in North America that have [Nitrogen] impacts

identified as a primary contributor”), 16-72, 6-98, 9-29. The Ecological NAAQS Science Assessment also includes species profiles for ESA-protected species related to the adverse effects of Nitrogen pollution. *E.g. Id.* at 14-27 (green sea turtle), IS-85 (staghorn and elkhorn coral). It notes that modeling of “[Nitrogen] deposition” suggests that the current deposition “exceeds the most sensitive critical loads in many of these areas,” *id.* at 16-1, and provides case studies of biodiverse areas, such as the Adirondack mountains and the southeastern U.S., that were adversely affected by deposition from Nitrogen, Sulfur, and Particulates. *E.g., id.* at 16-46 to 16-90, 16-72 (over 50 ESA protected species impacted by anthropogenic nitrogen in ten southeastern states).

Importantly, EPA disregards expert scientific evidence from U.S. Fish and Wildlife Service recovery plans on the effects on ESA-listed species that could have been addressed through consultation. The recovery plan for the whooping crane specifically notes the threat of acid rain to the species. JA____, 2014-0128-0474, Ex. 32 at C-1. “[D]irect impacts...associated with acid deposition and other sources of air pollution” further endanger the Shenandoah salamander. JA____, 2014-0128-0474, Ex. 29 at 8. The Chiricahua leopard frog is harmed by increased acidity resulting from Sulfur air pollution. JA____, 2014-0128-0474, Ex. 30 at 24.

EPA first attempts to discredit the Wildlife Agencies’ Recovery Plans because “they are not themselves peer reviewed scientific studies” or because they include “unpublished studies.” JA____, 2014-0128-0529 at 12. But that runs contrary to the requirements to use the best available science and not disregard data regarding the effects on species. *City of Las Vegas v. Lujan*, 891 F.2d 927, 933

(D.C. Cir. 1989). EPA also incorrectly claims that the “various Recovery Plans” for ESA-protected species are “not part of the criteria for this review and are generally beyond the scope of this review.” JA____, 2014-0128-0529 at 12. Yet, as discussed *infra* at § II.B, the Ecological NAAQS here are where EPA should be considering the welfare effects on “animals,” “wildlife,” and “vegetation.” 42 U.S.C. § 7602(h).

1. EPA improperly focuses on the administrative consequences of its action, rather than its consequences for species, to claim “no effect.”

EPA claims that the reauthorizing the secondary standards for Nitrogen and Particulates maintains the “status quo,” claiming that that the “Code of Federal Regulations,” “air quality designations,” and “planning and control efforts” will not change. JA____, 2014-0128-529 at 10. Similarly, EPA alleges that the revised Sulfur NAAQS is not expected to “result in any additional areas being designated nonattainment” or “require implementation of additional emissions reductions.” JA____, 2014-0128-530 at 4.

EPA’s focus on the legalistic and administrative changes resulting from its action is misplaced and overlooks the real-world impacts of continued deposition on the environment. *Lockyer v. USDA*, 575 F.3d at 1014 (focusing on “planning measures” misses the mark regarding harm in ESA context because it disregards effects on “complex ecosystems”).

Reauthorizing the existing NAAQS for Nitrogen, as EPA did below, does not maintain a consistent, baseline level of Nitrogen in ecosystems. Rather,

because Nitrogen, as well as Sulfur, accumulates in waters and soils as it is deposited over time, even maintaining the same level of Nitrogen pollution in the ambient air means damage to soils and water gets worse and worse, thereby intensifying the harm to species. The record demonstrates that reauthorizing the air quality standard for Nitrogen and Particulates and revising the standard for Sulfur does not maintain a baseline level of health in ecosystems. This is a consequence that EPA arbitrarily failed to consider in reaching its last-minute “no effect” determination. *State Farm*, 463 U.S. at 43 (agency action is arbitrary if the agency “entirely failed to consider an important aspect of the problem”).

Chronic low-level nitrogen deposition has damaging consequences for plant diversity. JA____, 2014-0128-0112 at 712; JA____, 2014-0128-0109 at 304 (cumulative Nitrogen and Sulfur deposition harm ecosystems). Similarly, scientific modeling of acid-sensitive watersheds suggest decreases in Sulfur deposition of over 50 percent are necessary for chemical recovery to begin, as only then will Sulfur inputs become low enough to counteract ongoing acidification and the diminished capacity of soil to absorb Sulfur. JA____, 2014-0128-0043 at 25.

EPA’s own scientific framework recognizes these cumulative and additive effects by pointing to the “dose addition” resulting from the “common mechanism of toxicity” of multiple pollutants, including Sulfur and Nitrogen, that create an “intracellular pH imbalance,” affecting the acidity in ecosystems. JA____, 2013-0620-0021.

EPA disregards that the ESA's "may affect" threshold "purposefully sets a low bar" to trigger formal consultation when there is "any chance of affecting listed species or critical habitat." *Growth Energy*, 5 F.4th at 30.

2. EPA failed to consider the ESA's baseline requirements.

EPA's no effect determination also violates the ESA's environmental baseline requirements. Failure to consider degradation of the environment is a violation of the ESA's environmental baseline requirement because past harms that cause ongoing impacts must be part of the environmental baseline. See, e.g., *Am. Rivers & Ala. Rivers All. v. FERC*, 895 F.3d 32, 46-47 (D.C. Cir. 2018), *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 524 F.3d 917, 929 (9th Cir. 2008).

In *American Rivers*, the Fish and Wildlife Service's environmental baseline did not include historic impacts on the Coosa River. *Am. Rivers*, 895 F.3d at 46 (citing *Nat'l Wildlife Fed'n*, 524 F.3d at 929). The Service's environmental baseline was inconsistent with the handbook's instructions to determine the aggregate effects of the factors analyzed under the environmental baseline, which includes historic impacts. *Id.* The Court held that even if the populations within the action area had been living under degraded conditions for years and the action proposed to improve conditions, ongoing impacts still had to be considered as part of the baseline to provide an adequate jeopardy analysis under the ESA. *Id.* at 46.

Similarly, this Court recently affirmed that it was appropriate for EPA to "include the cumulative impact of previous rules... in the environmental baseline" to account for "the past and present impacts of all Federal...actions." *Ctr. for*

Biological Diversity v. EPA, 2025 U.S. App. LEXIS 15190, at *46-47 (D.C. Cir. 2025). EPA’s failure to consider the aggregate degradation caused by Sulfur and Nitrogen deposition and how further deposition will continue to degrade the environmental baseline, even if ambient air quality remains the same or improves, violates the ESA.

B. EPA fails to analyze the direct effects of Particulates on wildlife and endangered species.

EPA repeatedly emphasizes that the review here is to address the “ecological effects” of the secondary standards for Nitrogen, Sulfur, and Particulates, *e.g.* 89 Fed. Reg. at 105,692, which includes “any known or anticipated adverse effects” to vegetation and wildlife. 42 U.S.C. §§ 7409(b)(2), 7602(h). The expansive term “any” embraces effects “of whatever stripe.” *See Mass. v. EPA*, 549 U.S. 497, 528-29 & n.25 (2007). Petitioners repeatedly emphasized that EPA must consider the direct effects of Particulates on ESA-protected species because of the well-known risks, such as those from direct inhalation and on the nervous system. *E.g.* JA____, 2014-0128-0031 at 5-8; JA____, 2014-0128-0472 at 5-9. Those adverse effects can be significant for ESA-protected species such as the Fresno or Stephens’ kangaroo rats that live in areas that have repeatedly been designated as nonattainment for Particulates because they have some of the most polluted air in the United States. JA____, 2014-0128-0031 at 7; JA____, 2014-0128-0472 at 8. Despite these well-known risks to wildlife EPA disregards scientific evidence of the effects on ESA-protected species.

EPA's own Science Assessment details the strong and consistent evidence that Particulates exposure contributes to adverse effects on the respiratory, cardiovascular, and nervous systems, including cancer and death. *E.g.*, JA____, 2014-0128-0049 at ES-12 to ES-16. EPA bases many of its findings related to these harms on animal toxicological studies, especially for mice and rats. *E.g.*, *id.* at 5-44, 5-62. Inhalation of PM_{2.5} also threatens developmental health, male and female reproduction, and fertility. *Id.* at 9-5.

EPA argues it can disregard studies assessing the Particulates' "effects on lung growth and the nervous system" that "show adverse effects on listed species" because they "are not part of the criteria for this review and are beyond the scope of this review." JA____, 2014-0128-0529 at 10. Instead, EPA claims that it is only considering the "ecological effects of [Particulates] in recognition of atmospheric transformations and deposition." 89 Fed. Reg. at 105,698. However, nowhere else does EPA conduct that analysis.

Paradoxically, EPA stated in other contexts that such an analysis would be conducted in the Ecological NAAQS here. EPA's 2024 reconsideration of the secondary Particulates NAAQS alleged that the analysis of Particulates' "effects on ecosystems, ecosystem services, or species" are "being considered as part of the separate, ongoing, review of the secondary standards for oxides of sulfur, oxides of nitrogen and [Particulates]"—the Ecological NAAQS review here—and thus, comments about ecological effects on species are "beyond the scope" of the 2024

primary and secondary NAAQS.” 89 Fed. Reg. at 16,326.⁹ Yet, EPA failed to address its own analysis recognizing the harms of Particulates on wildlife in the Ecological NAAQS here, or any other rule. In doing so, EPA “entirely failed to consider an important aspect of the problem [and] offered an explanation for its decision that runs counter to the evidence before the agency.” *Growth Energy*, 5 F.4th at 31.

For science and data that EPA does consider, it provides arguments that defy common sense and its own practices. When presented with peer-reviewed literature of the harms of Particulates on animals EPA refutes the “toxicological rodent studies cited by the commenter as evidence of [Particulates’] effects on listed species” because “laboratory animal models” better “inform an understanding of specific aspects of human susceptibility” and are not representative of “wild animal populations.” JA____, 2014-0128-0529 at 12. In other words, EPA argues that lab mice are closer to *human beings* than other mice. On its face, this type of argument “is so implausible that it could not be ascribed to a difference in view or the product of agency expertise” but rather is a weak argument to avoid the agency’s obligations. *Growth Energy*, 5 F.4th at 31.

⁹ See also EPA-HQ-OAR-2015-0072-1239, EPA, Responses to Significant Comments on the 2020 Proposed Rule on the NAAQS for PM (2020), <https://www.regulations.gov/document/EPA-HQ-OAR-2015-0072-1239> at 39-40 (“EPA’s review of the secondary PM NAAQS has been bifurcated, and ecological effects of PM deposition, including effects on species and habitats... should be evaluated in reviewing the secondary NAAQS”). Petitioners request judicial notice under Fed. R. Evid. 201(b)(2), *supra* n.6.

EPA's claims that mice studies can be disregarded is also contradicted by EPA itself. In ecological effects testing protocols developed by EPA for analyzing the effects of pollutants on wildlife, "surrogate or substitute organisms are used to represent a group of organisms." JA____, 2014-0128-0472, Ex. 6 at 271 of 276. "For example, the laboratory rat may be used to represent all mammalian species." *Id.* EPA also recognizes that animal studies pose problems in extrapolation of results to people. For example, in setting the Particulates NAAQS, EPA noted "the limited utility of the animal toxicological studies... given the uncertainty in extrapolating from effects in animals to those in human populations" 89 Fed. Reg. at 16,221.

EPA here "failed to consider an important aspect of the problem" for its "no effect" determination where it failed to "engage with the results" of scientific analysis or "identify why they did not constitute the best available science and data." *Ctr. for Biological Diversity* 2025 U.S. App. LEXIS 15190, at *57 (citing *State Farm*, 463 U.S. at 43).

III. EPA's late-stage "no effect" determination contravenes the ESA's timeframe for consultation.

EPA's October 2024 no effect determination arbitrarily undermines the ESA's requirement to consult early with the Wildlife Agencies. Early consultation is required to address effects on ESA-listed species, and ways to reduce harms, before the agency definitively settles on a course of action. In the consultation process, the ESA requires that EPA "shall review its actions at the earliest possible

time” to determine effects on ESA-listed species. *Cyantraniliprole I*, 861 F.3d at 188 (citing 50 C.F.R. § 402.14(a)). The ESA consultation process is “designed as an integral check on federal agency action, ensuring that such action does not go forward without full consideration of its effects on listed species.” *Id.* at 178.

In the present case, EPA provides a memorandum to the docket two months before its final action—the December 2024 Ecological NAAQS—attempts to justify why the revisions to the Sulfur standard and maintaining Nitrogen and Particulates standards do not represent a change in the status quo for ESA-listed species. JA____, 2014-0128-530. EPA itself recognized the harm to ecosystems and the environment during the prior rulemaking. *E.g.*, 77 Fed. Reg. 20,218 at 20,240. As early as 2015, Petitioners emphasized the need for EPA to engage in Section 7 consultation. JA____, 2014-0128-0006 at 2. Despite this, in the decade-long process of assessing the Ecological NAAQS, EPA did not consult and avail itself of the expertise of the Wildlife Agencies through even informal consultation. “Informal consultation also presents an opportunity for an agency that believes its action is not likely to affect listed species or critical habitat to seek the Wildlife Services’ written concurrence to that effect, which, if granted, satisfies the ESA and obviates the need for formal consultation.” *Ctr for Biological Diversity*, 56 F. 4th at 62.

Yet instead of admitting the well-recognized harms at the earliest possible time in the current rulemaking that started in 2013, or engaging in any communication in the record with the Wildlife Agencies about the Ecological NAAQS, EPA has shirked the ESA consultation process. EPA’s 11th hour no effects determination contravenes the ESA’s requirements that consultation

provide a “a roadmap forward that balances accommodating agency priorities with maintaining ESA compliance” through “inter-agency consideration of what plausible mitigation measures could be implemented.” *In re Ctr. for Biological Diversity*, 53 F.4th at 668 (emphasis added). “The plain intent of Congress in enacting [the ESA] was to halt and reverse the trend toward species extinction, whatever the cost.” *Tenn. Valley Auth. v. Hill*, 437 U.S. at 153, 184 (1978) at 184. EPA’s late-stage approach contravenes that intent.

REMEDY

The Center requests that the Court vacate EPA’s findings that the Ecological NAAQS are “requisite to protect the public welfare” because EPA has failed to account for effects to ESA-protected “vegetation” and “wildlife” as required under the Clean Air Act and the ESA. 42 U.S.C. §§ 7409(b)(2), 7602(h). When a federal agency acts contrary to law “vacatur is the normal remedy.” *Allina Health Servs. v. Sibelius*, 746 F.3d 1102, 1110 (D.C. Cir. 2014).

EPA found that the existing standards for Nitrogen and Particulates should be reauthorized because the evidence does not warrant revision. 89 Fed. Reg. 105693. EPA’s arbitrary and capricious finding, violating the ESA’s procedural and substantive requirements, was serious and there would be little disruptive consequence while EPA corrects its findings with the remainder of the current rules in place. *Allied-Signal, Inc. v. U.S. Nuclear Regulatory Comm’n*, 988 F.2d 146, 150 (D.C. Cir. 1993).

The Center does not seek, and waives any request, to vacate the more environmentally protective secondary standard for Sulfur set at an annual average, averaged over three consecutive years, of a level of 10 parts per billion. *Env't Defense Fund v. EPA*, 898 F.2d 183, 190 (D.C. Cir. 1990) (vacatur of Clean Air Act protections would “at least temporarily defeat” enhanced, if inadequate, protection of environmental); JA____, 2014-0128-0096 at 6 of 163 (Scientific Advisory Committee recommending 10-15 parts per billion “to preclude the possibility of returning to deleterious deposition values”).

CONCLUSION

For the foregoing reasons, this Court should find that EPA violated the ESA. The Court should vacate the findings that the Ecological NAAQS are requisite to protect the public welfare and require EPA to engage in consultation under the ESA.

Respectfully submitted this 8th day of July, 2025.

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CERTIFICATE OF COMPLIANCE

In accordance with Circuit Rule 32(a) and Rule 32(a)(7) of the Federal Rules of Appellate Procedure, the undersigned certifies that the accompanying brief has been prepared using 14-point Time New Roman typeface, and is double-spaced (except for headings and footnotes).

The undersigned further certifies that the brief is proportionally spaced and contains 12,421 words, excluding the certificate required by Circuit Rule 28(a)(1), table of contents, table of authorities, glossary, signature lines, and certificates of service and compliance.

The undersigned used Microsoft Word to compute the word count.

Respectfully submitted this 8th day of July, 2025.

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